

ABSTRACT OF THE DISCLOSURE

Off-gas from a carbon black furnace is employed as a combustion gas feed stream to the burner or combustion zone of the same or a different carbon black furnace in accordance with certain embodiments, suitable conduit and valving is provided to pass off-gas, from which carbon black has been substantially removed, from any or all of multiple different carbon black furnaces to the burner. The off-gas is heated, preferably by plasma heating, and dewatered. Carbon dioxide stripping or rather stripping of gas components from the dewatered heated off-gas is found to be unnecessary to achieve economically favorable use of off-gas recirculation.